

ABSTRAK**ANALISIS PENGARUH KOMPETENSI DAN PENGALAMAN
TEKNOLOGI SERTA SIKAP DALAM INTEGRASI TEKNOLOGI
TERHADAP KEMAMPUAN TPACK GURU IPA**

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Mengintegrasikan teknologi ke dalam kegiatan pembelajaran IPA membutuhkan kemampuan untuk memilih teknologi yang sesuai dengan konten IPA dan pedagogi yang spesifik. Kemampuan ini dikenal dengan kemampuan TPACK (*Technological Pedagogical and Content Knowledge*). Kemampuan TPACK guru dipengaruhi oleh faktor intrinsik guru, seperti kompetensi teknologi, pengalaman teknologi, dan sikap guru dalam integrasi teknologi. Namun, informasi mengenai pengaruh langsung ketiga faktor instrinsik tersebut terhadap kemampuan TPACK guru masih terbatas. Oleh sebab itu, penelitian survei ini bertujuan untuk menggambarkan dan mengetahui pengaruh kompetensi, pengalaman, dan sikap guru dalam integrasi teknologi terhadap kemampuan TPACK mereka. Sampel penelitian adalah 88 orang guru IPA SMP Kota Banda Aceh. Sampel diperoleh menggunakan *total sampling*. Instrumen yang digunakan terdiri dari kuesioner dan tes pilihan ganda. Kuesioner digunakan untuk memperoleh data pengalaman teknologi dan sikap dalam integrasi teknologi. Tes pilihan ganda digunakan untuk memperoleh data kompetensi teknologi dan kemampuan TPACK guru. Instrumen disebarakan melalui kegiatan pelatihan yang dilaksanakan oleh FKIP Unsyiah dan Dinas Pendidikan dan Kebudayaan Kota Banda Aceh. Data penelitian yang telah diperoleh selanjutnya dianalisis secara statistik deskriptif dan inferensial. Analisis statistik inferensial menggunakan pendekatan *Structural Equation Modelling-Partial Least Square* (SEM-PLS). Hasil penelitian menunjukkan bahwa kompetensi teknologi dan kemampuan TPACK guru masih kurang, dan penggunaan teknologi masih tidak rutin. Namun, mereka memiliki sikap positif dalam pengintegrasian teknologi. Selanjutnya, hasil analisis SEM-PLS menunjukkan bahwa kompetensi, pengalaman, dan sikap dalam integrasi teknologi secara bersama-sama berpengaruh secara signifikan terhadap kemampuan TPACK guru IPA.

Kata kunci: kompetensi teknologi, pengalaman teknologi, sikap dalam integrasi teknologi, kemampuan TPACK, SEM-PLS

ABSTRACT**ANALYSIS THE EFFECTS OF TECHNOLOGY COMPETENCIES,
EXPERIENCES, AND ATTITUDES TOWARDS TECHNOLOGY
INTEGRATION ON SCIENCE TEACHERS TPACK ABILITY**

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Integrating technology into science learning activities requires the ability to choose appropriate technology to suit specific science content and pedagogy. This ability is known as TPACK (*Technological Pedagogical and Content Knowledge*) skill. Teachers' TPACK ability is influenced by the teachers' intrinsic factors, such as technology competencies, technology experiences, and teacher attitudes towards technology integration. However, information about the direct effect of the intrinsic factors on the teachers' TPACK ability is still limited. Therefore, this survey research aims to describe and determine the effect of competencies, experiences, and teachers' attitudes in technology integration towards their TPACK ability. The research sample was 88 junior high schools science teachers from Banda Aceh. Samples were obtained using total sampling. The instruments used consisted of questionnaires and multiple choice tests. The questionnaires were used to obtain data on technology experience and attitudes in technology integration. Furthermore, the multiple choice tests were used to obtain data on technology competencies and science teachers' TPACK. Both instruments were distributed through training activities conducted by FKIP Unsyiah and Dinas Pendidikan dan Kebudayaan Kota Banda Aceh. The research data were analyzed by descriptive and inferential statistics. Inferential statistic analysis was carried out by using the Structural Equation Modeling-Partial Least Square (SEM-PLS) approach. The results showed that teachers technological competencies and their TPACK ability was still low, and the use of technology was not routine. However, they have a positive attitude towards integrating technology into learning activities. Furthermore, the results of SEM-PLS analysis show that competencies, experiences, and attitudes towards technology integration together have a significant effect on the science teachers' TPACK.

Keywords: technology competencies, technology experiences, attitudes towards technology integration, TPACK skill, SEM-PLS